

## **ABSTRACT**

1           A method of determining a fluid property in a subsurface region of interest of an  
2 earth formation uses measurements of seismic attributes on seismic data. For a test  
3 region, a plurality of realizations of rock properties are specified, and for each of the  
4 realizations and a selected value of a fluid property, the seismic attribute is modeled.  
5 This defines a probability density function (PDF). Comparison of the PDF of the model  
6 output with the PDF on the measured seismic data is used to determine the likelihood of  
7 the selected fluid property.